

Iron and Steel Castings: 2002

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SUMMARY OF FINDINGS

In 2002, quantity of iron and steel castings shipped were estimated at 9,253 thousand

short tons, which compares to the 9,911 thousand short tons shipped in 2001. Ductile iron and gray iron castings quantity shipped were estimated at 4,066 and 4,401 thousand short tons, respectively, from the 4,194 and 4,803 shipped in 2001. Manufacturers of malleable iron castings shipped 127 thousand short tons in 2002, from the 135 thousand short tons shipped in 2001. The quantity of steel castings (except investment) shipped in 2002 is 660 thousand short tons, from the 779 thousand short tons shipped in 2001. The quantity of steel investment castings shipped in 2002 is 66 thousand pounds, compared to 77 thousand pounds shipped in 2001.

For general CIR information, explanation of general terms and historical note, see the appendix.

Address inquiries concerning these data to Primary Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call Brenda Campbell, 301-763-1031.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-763-4673.

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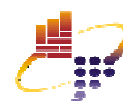


Table 1. Quantity of Shipments of Iron and Steel Castings: 2002 and 2001
[Thousands of short tons]

	2002	2001
Ductile iron castings:		
Total.....	4,066	4,194
For sale.....	3,798	3,939
For own use.....	268	255
Gray iron castings:		
Total.....	4,401	4,803
For sale.....	3,268	3,656
For own use.....	1,133	1,147
Malleable iron castings:		
Total.....	127	135
For sale.....	57	60
For own use.....	70	75
Steel castings:		
Total.....	660	779
For sale.....	651	767
For own use.....	9	12

Table 2. Value of Shipments of Iron and Steel Castings: 2002 and 2001
[Millions of dollars]

Product description	2002		2001	
	Value of shipments	Standard error (percent)	Value of shipments	Standard error (percent)
Ductile iron castings.....	3,325.5	(Z)	r/ 3,666.9	1.0
Gray iron castings.....	3,345.8	1.6	3,819.7	1.5
Malleable iron castings.....	156.8	1.0	176.3	1.0
Steel castings.....	1,285.1	1.0	1,596.2	1.1
Steel investment castings.....	1,097.0	4.4	1,290.0	3.6

r/Revised by 5 percent or more from previously published data.
unit shown.

Z Less than half the

Note: Dollar value represents the value of castings for sale.

Table 3. Shipments of Iron and Steel Castings by Type of Castings: 2002 and 2001
[Quantity in short tons]

Product code	Product description	2002		2001	
		Quantity	Standard error (percent)	Quantity	Standard error (percent)
	Iron and steel castings (except investment castings).....	9,252,972	0.5	9,910,973	0.5
	For sale.....	7,774,247	0.5	8,421,744	0.5
	For own use.....	1,478,725	1.3	1,489,229	1.2
	Ductile (nodular) iron castings.....	4,065,872	(Z)	4,193,959	(Z)
	For sale.....	3,798,228	(Z)	3,938,689	(Z)
	For own use.....	267,644	0.6	255,270	0.7
	Ductile iron pressure pipe:				
3315111201	Under 14 inches (inside diameter) 1/.....	1,061,646	-	1,086,184	-
3315111107	14 to 24 inches 1/.....	789,264	-	818,988	-
3315111108	25 inches and over 2/.....	(D)	-	(D)	-
	Ductile iron fittings:				
3315111111	Under 14 inches (inside diameter) 2/.....	82,311	2.4	84,859	2.9
3315111117	14 to 24 inches 2/.....	(D)	-	(D)	-
3315111118	25 inches and over 2/.....	(D)	-	(D)	-
3315113206	Construction and utility castings 1/.....	67,458	(Z)	54,406	(Z)
3315113101	Automotive uses 1/.....	1,049,048	(Z)	951,537	(Z)
3315113216	Machinery uses 1/.....	80,195	2.4	109,088	3.1
3315113221	Other ductile iron castings (except pressure pipe and fittings):				
	For sale.....	531,951	1.0	696,817	1.3
	For own use.....	64,973	1.0	58,166	2.8
	Gray iron castings.....	4,400,628	1.0	4,803,463	1.0
	For sale.....	3,268,093	1.7	3,656,045	0.9
	For own use.....	1,132,535	-	1,147,418	1.6
331511E200	Molds and stools for heavy steel ingots 2/.....	(D)	-	38,671	-
	Gray iron pressure pipe fittings: 3/				
3315115121	Under 14 inches (inside diameter) 2/.....	8,200	(Z)	9,410	(Z)
3315115125	14 inches and over (inside diameter) 2/.....	518	2.8	541	2.0
3315117114	Gray iron soil pipe 2/.....	229,967	-	242,323	-
3315117133	Gray iron soil pipe fittings 2/3/.....	61,857	-	60,818	-
3315119206	Automotive uses 1/.....	909,452	0.8	998,157	0.6
3315119111	Construction and utility castings 1/.....	444,237	1.0	486,941	0.7
3315119116	All other gray iron castings, including white iron castings:				
	For sale.....	(D)	1.9	1,819,186	1.7
	For own use.....	(D)	6.1	257,701	6.2
	Malleable iron castings.....	126,951	(Z)	134,619	(Z)
	For sale.....	(D)	(Z)	(D)	(Z)
	For own use.....	(D)	(Z)	(D)	(Z)
331511A100	Standard malleable 2/.....	(D)	(Z)	(D)	(Z)
331511C300	Pearlitic malleable 2/.....	(D)	-	(D)	(Z)
	Steel castings (except investment).....	659,521	(Z)	778,932	(Z)
	For sale.....	650,801	(Z)	766,769	(Z)
	For own use.....	8,720	11.6	12,163	8.5
	Carbon steel 2/.....	416,407	-	505,492	(Z)
	Railroad specialties 2/.....	(D)	0.5	342,640	(Z)
3315131102	Side frames, bolsters, couplers, yokes, draft gear, snubbers (self-contained unit type), hopper doors and frames and break beams 2/.....	(D)	-	(D)	-
3315131103	Other carbon steel railway and transit rolling stock castings 2/.....	(D)	-	(D)	-

Continued

Table 3. Shipments of Iron and Steel Castings by Type of Castings: 2002 and 2001
[Quantity in short tons]

Product code	Product description	2002		2001	
		Quantity	Standard error (percent)	Quantity	Standard error (percent)
3315131215	Other carbon steel castings, including rolls for rolling mills:				
	For sale.....	(D)	0.7	160,383	0.6
	For own use.....	(D)	2.8	2,469	6.8
	Alloy (except high alloy) steel castings.....	157,396	3.0	188,330	2.6
3315135101	Railway specialties 2/.....	17,760	3.0	23,956	2.6
3315135113	Other alloy steel castings, including rolls for rolling mills 2/.....	139,636	1.0	167,374	1.0
3315133113	High alloy steel castings:				
	For sale.....	84,382	1.5	82,184	1.5
	For own use.....	1,336	8.2	2,926	6.3
	Steel investment castings 4/.....	66,297	0.6	76,509	0.6
	For sale 4/.....	63,650	0.6	73,434	0.6
	For own use 4/.....	2,647	0.6	3,075	-
3315120101	Carbon, including low alloy 2/4/.....	27,989	0.7	r/ 29,679	0.7
3315120106	Alloy, including stainless 2/4/.....	38,308	0.8	46,830	0.7

- Represents zero. D Withheld to avoid disclosing data for individual companies. r/Revised by 5 percent or more from previously published data. Z Less than half the unit shown.

1/Represents "For sale only" data.

2/Represents data "For sale" and "For own use."

3/Does not include machined, threaded, or assembled fittings.

4/Shipments are in thousands of pounds.

Table 4. Manufacturers Shipments, Exports, and Imports of Iron and Steel Castings: 2002
[Quantity in short tons]

Product code	Product description 1/	Manufacturers' shipments	Exports of domestic merchandise 1/2/	Imports for consumption 1/3/
3315111107, 1108, 1201	Ductile iron pressure pipe 4/.....	1,964,990	2,344	10,234
3315111111, 1117, 1118	Ductile iron fittings 4/.....	104,586	470	3,075
331511E200	Molds for heavy steel ingot 4/.....	25,990	720	5,224
3315115121, 5125	Gray iron pressure pipe fittings 4/.....	8,718	9,827	21,728
3315117114	Gray iron soil pipe 4/.....	229,967	91,622	10,290
3315117133	Gray iron soil pipe fittings 4/.....	61,857	4,703	14,043
3315113101, 3206, 3216, 3221, 9111, 9116, 9206, A100, C300, 3315120101, 0106 3315131102, 1103, 1215, 3113, 5101, 5113	Iron and steel castings, n.e.c. 4/.....	5,850,762	85,793	335,117

1/For comparison of North American Industry Classification System (NAICS)-Based product codes with Schedule B export codes, and import codes, see Table 5.

2/Source: Census Bureau report FT 446, U.S. Exports.

3/Source: Census Bureau report IM 145, U.S. Imports for Consumption.

4/See Table 3 for data representing "For sale" and "For own use."

Table 5. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes and HTSUSA Import Codes: 2002

Product code	Product description	Export codes 1/	Import codes 2/
3315111107, 1108, 1201	Ductile iron pressure pipe.....	7303.00.0060 7303.00.0090	7303.00.0060 7303.00.0090
3315111111, 1117, 1118	Ductile iron fittings.....	7307.19.3000	7307.19.3040 7307.19.3060 7307.19.3080
331511E200	Molds for heavy steel ingots.....	8454.20.0010	8454.20.0010
3315115121, 5125	Gray iron pressure pipe fittings.....	7307.11.0030 7307.11.0060	7307.11.0030 7307.11.0060
3315117114	Gray iron soil pipe.....	7303.00.0030	7303.00.0030
3315117133	Gray iron soil pipe fittings.....	7307.11.0045	7307.11.0045
3315113101, 3206, 3216, 3221, 9111, 9116, 9206, A100, C300, 3315120101, 0106 3315131102, 1103, 1215, 3113, 5101, 5113	Iron and steel castings, n.e.c.	7307.19.9030 7307.19.9090 7325.10.0000 7325.91.0000 7325.99.0000	7307.19.9030 7307.19.9040 7307.19.9060 7307.19.9080 7325.10.0010 7325.10.0025 7325.10.0020 7325.10.0035 7325.10.0030 7325.10.0080 7325.91.0000 7325.99.1000 7325.99.5000

n.e.c. Not elsewhere classified.

1/Source: 2002 edition, Harmonized System-based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated (2002).

Appendix.

General CIR Survey Information, Explanation of General Terms and Historical Note

GENERAL

The CIR program has been providing monthly, quarterly, and annual measures of industrial activity for many years. Since 1904, with its cotton and fats and oils surveys, the CIR program has formed an essential part of an integrated statistical system involving the quinquennial economic census, manufacturing sector, and the annual survey of manufactures. The CIR surveys, however, provide current statistics at a more detailed product level than either of the other two statistical programs.

The primary objective of the CIR program is to produce timely, accurate data on production and shipments of selected products. The data are used to satisfy economic policy needs and for market analysis, forecasting, and decision making in the private sector. The product-level data generated by these surveys are used extensively by individual firms, trade associations, and market analysts in planning or recommending marketing and legislative strategies, particularly if their industry is significantly affected by foreign trade. Although production and shipments information are the two most common data items collected, the CIR program collects other measures also such as inventories, orders, and consumption. These surveys measure manufacturing activity in important commodity areas such as textiles and apparel, chemicals, primary metals, computer and electronic components, industrial equipment, aerospace equipment, and consumer goods.

The CIR program uses a unified data collection, processing, and publication system. The U.S. Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic census, manufacturing sector. The manufacturing sector provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is too large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. The CIR program includes a group of mandatory and voluntary surveys. Typically the monthly and quarterly surveys are conducted on a voluntary basis. Those companies that choose not to respond to the voluntary surveys are required to submit a mandatory annual counterpart corresponding to the more frequent survey.

NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS), 1997

The adoption of the North American Industry Classification System (NAICS) in the 1997 Economic Census has had a major impact on the comparability of current and historic data. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those that left manufacturing are logging and portions of publishing. Prominent among the industries that came into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. The net effect of the classification changes are such that if the 1997 value of shipments data for all manufacturers were tabulated on an SIC basis, it would be approximately 3 percent higher.

Listed below are the NAICS sectors:

- 21 Mining
- 22 Utilities
- 23 Construction
- 31-33 Manufacturing
- 42 Wholesale Trade
- 44-45 Retail Trade
- 48-49 Transportation and Warehousing
- 51 Information
- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing
- 54 Professional, Scientific, and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste Management and Remediation Services
- 61 Educational Services
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Food Services
- 81 Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

FUNDING

The Census Bureau funds most of the surveys. However, a number of surveys are paid for either fully or partially by other Federal Government agencies or private trade associations. A few surveys are mandated, but all are authorized by Title 13 of the United States Code.

RELIABILITY OF DATA

Survey error may result from several sources including the inability to obtain information about all cases in the survey, response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding the reported data, and other errors of collection, response, coverage, and estimation. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to these nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is the imputing of data for nonrespondents, for late reporters, and for data that fail logic edits. Missing figures are imputed based on period-to-period movements shown by reporting firms. A figure is considered to be an impute if the value was not directly reported on the questionnaire, directly derived from other reported items, directly available from supplemental sources, or obtained from the respondent during the analytical review phase. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are suppressed or footnoted. The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

DATA REVISIONS

Statistics for previous years may be revised as the result of corrected figures from respondents, late reports for which imputations were originally made, or other corrections. Data that have been revised by more than 5 percent from previously published data are indicated by footnotes.

DISCLOSURE

The Census Bureau collects the CIR data under the authority of Title 13, United States Code, which specifies that the information can only be used for statistical purposes and cannot be published or released in any manner that would identify a person, household, or establishment. "D" indicates that data in the cell have been suppressed to avoid disclosure of information pertaining to individual companies.

EXPLANATION OF GENERAL TERMS

Capacity. The maximum quantity of a product that can be produced in a plant in 1 day if operating for 24 hours. Includes the capacity of idle plants until the plant is reported to be destroyed, dismantled, or abandoned.

Consumption. Materials used in producing or processing a product or otherwise removing the product from the inventory.

Exports. Includes all types of products shipped to foreign countries, or to agents or exporters for reshipment to foreign countries.

Gross shipments. The quantity or value of physical shipments from domestic establishments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale or use. Shipments of products purchased for resale are omitted. Shipments of products made under toll arrangements are included.

Interplant transfers. Shipments to other domestic plants within a company for further assembly, fabrication, or manufacture.

Inventories. The quantity or value of finished goods, work in progress, and materials on hand.

Machinery in place. The number of machines of a particular type in place as of a particular date whether the machinery was used for production, prototype, or sampling, or was idle. Machinery in place includes all machinery set up in operating positions.

Net receipts. Derived by subtracting the materials held at the end of the previous month from the sum of materials used during the current month.

Production. The total volume of products produced, including: products sold; products transferred or added to inventory after adjustments for breakage, shrinkage, and obsolescence, plus any other inventory adjustment; and products that undergo further manufacture at the same establishment.

Quantities produced and consumed. Quantities of each type of product produced by a company for internal consumption within that same company.

Quantity and value of new orders. The sales value of orders received during the current reporting period for products and services to be delivered immediately or at some future date. Also represents the net sales value of contract change documents that increase or decrease the sales value of the orders to which they are related, when the parties concerned are in substantial agreement as to the amount involved. Included as orders are only those that are supported by binding legal documents such as signed contracts or letter contracts.

Quantity and value of shipments. The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and

returns. Shipments to a company's own branches are assigned the same value as comparable appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

Stocks. Total quantity of ending finished inventory.

Unfilled orders (backlog). Calculated by adding net new orders and subtracting net sales from the backlog at the end of the preceding year.

HISTORICAL NOTE

Data on iron and steel castings have been collected by the Census Bureau since 1943. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library.